



## A VLOM framework for Cambodia

*Jeremy Ockelford, Jan-Willem Rosenboom and Bent Kjellerup, Cambodia*

IT HAS BEEN REALISED over the past decade that the benefits of water supplies from public village handpumps are not being achieved due to failure of maintenance systems. Centralised, government run maintenance systems have failed due to high operating costs, poor communications between users and the maintenance department, and lack of care by the users through misconceptions of "ownership" of the pump. To solve these problems the concept of Village Level Operation and Maintenance and Management (VLOM) has gradually evolved, along with the technical development of handpumps suitable for maintenance by users. (IRC, 1988).

In Cambodia, a wide ranging definition of VLOM with a comprehensive list of activities necessary to achieve it was developed in a special project involving all the agencies working in the water and sanitation sector. Although the project focused on handpumps, the principles can be applied to any type of water supply.

### Background

In Cambodia the introduction of the VLOM concept was relatively late due to the international isolation of the country from 1975 until 1990, and because of the emergency type interventions and programmes in the 1980s and early 1990s. These emergency and technically focused programmes have recently been superseded by developmental approaches, including community organisation and water use education.

Rural drinking water programmes were being implemented through two principal government departments supported by UNICEF, various NGOs and UNDP. Standardisation of handpumps and a co-ordinated approach to VLOM were considered important because of the number of different agencies involved in the sector and the absence of clear responsibilities and guidelines from the government at that time.

The first step of adopting standard handpumps which are suitable for VLOM was described in an article in *Waterlines* (Kjellerup and Ockelford, 1993). Standardisation was achieved through a national workshop in February, 1993, in which the government departments and most agencies involved in rural water supply participated. Although not yet officially endorsed by the government authorities due to changing government systems and structures, the recommendations have generally been accepted and observed by agencies.

The Handpump Standardisation Workshop was essentially technical. It was recognised that the next step in the

process was to examine the concept of VLOM itself and to define it for application in Cambodia. This was done by running a three month project with a second national workshop. A number of programmes and projects were conducting some of the activities necessary to achieve VLOM, but these were generally done in isolation without co-ordination and without taking a comprehensive approach. The objective of running a specific project for VLOM was to formulate a strategy for its introduction, including the development of national policy.

The project was based on two convictions:

- village people are capable to operate, maintain and manage their own domestic water supply systems;
- VLOM is the only feasible way to achieve reliable, affordable and sustainable domestic water supplies for rural people.

### The process and the workshop

The three month long project was organised and designed by a Steering Committee with representatives from government departments, UN agencies and NGOs, and funding was secured from various agencies and donors. Formal requests for the project were made by the government departments. The centre-piece of the project was another national workshop. The objective of this was to formulate a general framework for VLOM and to propose a strategy for its introduction in Cambodia. It was planned mainly for the government departments at all levels, central, provincial and district, rather than external agencies, with 80 out of the 120 places allocated to government staff. Other participants were mainly the Cambodian staff of UN and NGOs.

A briefing document was prepared, translated and distributed to participants in advance. This discussed the concept of VLOM, its evolution, definition and application, and it proposed a list of activities considered essential for the achievement of VLOM.

The workshop itself was organised as a number of stages. After the opening, the concept of VLOM was examined and discussed in small groups, and was defined and recommended for adoption in Cambodia by a plenary session. Following the acceptance of VLOM for Cambodia, small groups studied and qualified the proposed list of activities to achieve VLOM. This list, given in Table 1 and discussed below in detail, was increased from 15 to 17 activities by the participants. The participants then looked at strategies for promoting VLOM. The final

**Table 1. A Cambodian framework for the village level operation and maintenance of handpumps**

No	VLOM Activities	Involved	Responsible
1	Training and Water Use Education	Community, Government External Support Agency (ESA)	Government
2	Community organisation	Community, Government ESA	Community
3	Selection of technology	Community Technical staff	Community Community
4	Reach community agreement; contribution provided	Community	Community
5	Allocation of handpumps to user communities	Government, ESA	
6	Construction of waterpoint, installation of handpump	Government, ESA Private sector	Government, ESA Private sector
7	Quality control	Community Monitoring Unit	Monitoring Unit
8	Handing over of ownership to users	Government, Community ESA	Government
9	Training of users in handpump maintenance	Government, Community Installation team	Government
10	Campaigns for correct use of water	National programmes	National government
11	Monitoring of community organisation and handpump performance	Monitoring Unit	Monitoring Unit
12	Manufacture of handpumps and spares	National Government Private sector	National Government
13	Marketing of spare parts	National Government Private sector	National Government
14	Follow-up	All involved	
15	Running cost contribution by users	Community	
16	Support to pump caretakers	Government, Community	Government
17	Coordination	All	All

(VLOM Project, 1994)

plenary session summarised and affirmed the output and recommendations from small groups and plenary sessions. Representatives of the government departments and almost all the agencies endorsed the outcome by signing a Statement of Support for the Cambodian Framework for VLOM.

### Definitions and activities for VLOM in Cambodia

VLOM is more than just a system of maintenance. The concept should provide the actual foundation upon which a rural water supply programme is planned and designed. It is built around three main ideas:

- **understanding** of the health benefits related to handpump water, together with a knowledge of other advantages, such as convenience, and the necessity of being involved in the establishment and sustainability of the handpump. This should lead to
- **willingness** to be involved in the construction of the handpump, and after installation, in its up-keep. The result of this will be
- **availability** of safe water, in the form of a handpump installed with maintenance based on the fact that the community understands the importance of safe water and is willing to contribute to its availability. (VLOM Project, 1994).

From these ideas a series of 17 activities was formulated which have to be integrated. Given the fact that community involvement needs to start from the moment it decides to request a waterpoint, these activities actually describe a complete process cycle. The elements of this will include:

- awareness building within the community (understanding and willingness);
- construction of the waterpoint (availability);
- the community assuming responsibility for the waterpoint;
- support systems functioning. (VLOM Project, 1994).

The complete list, summarised in Table 1, is explained as follows:

#### 1 Training and water use education

These are key elements. Sustainability is closely linked to the understanding and appreciation of a safe water supply together with confidence and willingness of communities to undertake VLOM. Developing this understanding should start even before the provision of a waterpoint is discussed, and it should be reinforced throughout the process.

#### 2 Community organisation

The user community has to organise itself into some form of group, both for construction of the waterpoint

and for subsequent operation and maintenance. This process will probably require facilitation, borrowing methods from the community development sector, and it needs time to mature. As a process it cannot be forced.

**3 Selection of technology**

The range of feasible technologies should be presented to the community, the advantages and disadvantages of each discussed, including liabilities for maintenance costs, and the risks of contamination of water (e.g. open wells are cheaper and easier to operate and maintain but are more at risk from contamination). The final choice should be for the community to make.

**4 Community agreements and contributions**

The users are normally expected to make contributions in the form of labour for construction and local materials (or cash to purchase these). The obligations of each party need to be explained and formally agreed to reinforce the understanding that the handpump will belong to the community. Again, this process needs time.

**5 Allocation of handpumps to user communities**

This is a formal step within a water programme with a finite capacity to allocate handpumps fairly to communities which meet selection criteria, such as making a formal request, being organised and signing an agreement.

**6 Construction of the waterpoint and installation of the handpump**

Timing of construction and user contributions needs to be discussed and agreed with the villagers.

**7 Quality control**

As well as standard quality control procedures by the implementing agency, the community itself should be involved in ensuring that the design standards are met. After all, it is in their interest. Methods of quality control by villagers need to be developed and training given in how to use them.

**8 Handing over of ownership of handpumps to users**

Following inspection of the completed handpump by all parties and acceptance of its condition, there should be a formal hand-over contract and ceremony. This is to reinforce the concept of ownership and responsibility.

**9 Training of users in handpump maintenance**

A number of caretakers, including women if possible, should be appointed and trained to carry out nearly all possible servicing and repairs. Care should be taken to ensure that this additional responsibility will not add to women's already high workload. Pump maintenance should also be demonstrated to as many people as possible.

**10 Water use campaigns**

Promoting proper use of water is similar to promoting changes in traditional behaviour. It requires continuous campaigning over a long period, both nationally and locally.

**11 Monitoring of community organisation and handpump performance**

Monitoring and evaluation is an essential process to gather information to ensure that VL0M is working and to feed-back into the programme design. M&E is as essential for the social aspects as for the technical performance of the handpump. Specialised M&E staff, independent of the other activities of community organisation, water use education and construction are necessary.

**12 Manufacture of pumps and spares**

Local manufacture of the pumps and parts should be strongly encouraged so that parts and pumps become easily available. The country should not have to rely on continuous importing. The designs of all three of the standard pumps in Cambodia (No.6, Tara, and Afridev) are in the public domain, so any manufacturer can make them without infringing patents.

**13 Marketing of spare parts**

Experience from elsewhere has shown that distribution of spare parts through the private sector is the only feasible sustainable way. Although incentives may be required to start the process, external support agencies should not subsidise parts in the long term and should try to avoid it in the short-term.

**14 Follow-up**

There should be both planned follow up to provide moral support to users, and response to monitoring and evaluation reports.

**15 Running cost contribution**

An essential component is that the users pay the running costs of the handpump. Various ways of doing this are possible, such as maintenance funds, or collection of money to buy parts when necessary.

**16 Support to pump caretakers**

This includes maintenance and repairs manuals, and training. In addition, periodic visits should be made to give moral support to the caretakers and user committee, frequently at first but less so later as they gain confidence through experience.

**17 Coordination**

This is considered essential for VL0M to work. Coordination is necessary in different ways: coordination of the above 16 activities; coordination between different levels of government; coordination between external support agencies to ensure uniformity of approach; coordination by donors to ensure complementary, not competitive projects.

### Issues arising from the workshop

It was hoped that the workshop would define the next practical steps to introduce VLOM to Cambodia, but it was not possible to achieve this. One of the problems facing the organisers was the newness of the concept in Cambodia. Although some or many of the activities were being included in individual projects, overall conceptualisation, integration and coordination was not. Thus the level of understanding by participants varied enormously, so the workshop was caught between being a training on the ideas and concepts, and being an informed discussion leading to proposals and recommendations for implementation.

Linked to this were doubts about the timing of the workshop. There was an argument for delaying it to allow more understanding of the issues to develop, through, for example, smaller provincial level workshops, and demonstrations of the standard pumps. In retrospect, it probably would have made little difference, and strategically it was just in time. Major projects were subsequently prepared by multi-lateral donors which appear to miss completely the point of VLOM. The output of the workshop was a valuable tool to use to persuade these agencies to change their approach.

One important message which came out is to manufacture the standard handpumps and parts as soon as possible in Cambodia. The viability of one of the pumps, the TARA, has been jeopardised because of major problems in getting it exported from Bangladesh.

### Activities since the workshop

One of the recommendations of the workshop is the establishment of a VLOM Support Unit to provide to provincial level ideas, advice, and training courses, to stimulate and encourage activities and communicate in-

formation on them between provinces, and to facilitate co-ordination. To complement and guide this Support Unit, the original organising Steering Committee proposed transforming itself into a governmental committee. Representation would be from the two main Ministries involved, plus others such as Women's Affairs and Industry. However, due to uncertainties over sectoral responsibility, this has not yet been set up. The VLOM Support Unit itself has received support from Community Aid Abroad, an Australian NGO, with funding from official Australian aid.

### Conclusion

The VLOM concept and systems were new to Cambodia. The workshop was a starting point. Its main achievement has been to set the agenda for VLOM in Cambodia, the realisation of which will take several years. In addition, it is proving to be a vital tool for discussions with multi-lateral donors which are now setting up major projects. The process of introducing it, based on requests from the government departments concerned, through a workshop involving all agencies in the sector was successful and appreciated by all the parties.

### References

- IRC, 1988, *Handpumps - Issues and concepts in rural water supply programmes*, Technical Paper No.25, The Netherlands, 1988;
- Kjellerup B. and Ockelford J., 1993, *Handpump Standardisation in Cambodia*, in *Waterlines*, Vol.12 No.1 (July), Intermediate Technology Publications, London.
- VLOM Project, 1994, *National Workshop on Village Level Operation and Maintenance of Handpumps - Workshop Report*, Village Level Operation and Maintenance Project, c/o Oxfam, Phnom Penh, Cambodia.